



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,501	09/03/2004	Claudia Becker	P08367US00/RFH	2837
881 7590 03/19/2007 STITES & HARBISON PLLC 1199 NORTH FAIRFAX STREET SUITE 900 ALEXANDRIA, VA 22314			EXAMINER LAFORGIA, CHRISTIAN A	
			ART UNIT	PAPER NUMBER
			2131	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/19/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/506,501	<b>Applicant(s)</b> BECKER ET AL.	
	<b>Examiner</b> Christian La Forgia	<b>Art Unit</b> 2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2004.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-14 have been presented for examination.

#### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority.

#### ***Specification***

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Art Unit: 2131

The specification does not provide for the section headings as described above. Appropriate correction is required.

***Claim Objections***

4. Claims 2-14 are objected to because claim 1 uses the transitional phrase “consists.” MPEP § 2111.03 states that the use of the transitional phrase “consists” excludes any element, step, or ingredient not in the specified claim, furthermore a claim that depends from a claim, which “consists of” the recited elements, or steps cannot add an element or step. For the purposes of examination, the Examiner will construe claim 1 as using the transitional phrase “comprises.” Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As per claims 1-14, merely claimed as a protocol representing a data abstraction *per se*, that is, descriptions or expressions of such a program and that is, descriptive material *per se*, non-functional descriptive material, and is not statutory because it is not a physical “thing” nor a statutory process, as there are not “acts” being performed. Such claimed data abstractions do not define any structural and functional interrelationships between the data abstraction and other claimed aspects of the invention which permit the data abstraction’s functionality to be realized. Since a data abstraction is merely a data structure capable of being executed by a computer, the abstraction itself is not a process. **Warmerdam,**

Art Unit: 2131

33 F.3d at 1361, 31 USPQ2d at 1760. **In re Sarkar**, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978). See MPEP § 2106(IV)(B)(1)(a).

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-14 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph. The claims are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-5 and 7-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,363,149 to Candelore, hereinafter Candelore.

11. As per claim 1, Candelore teaches a protocol for controlling access to information scrambled at a broadcast centre (column 4, lines 11-15) using a service key contained in a control word (column 4, lines 24-34), the control word being encrypted by means of an operating

Art Unit: 2131

key (column 2, lines 47-55), the access control protocol consisting at least in sending said scrambled information and periodic access control messages, ECM messages (column 6, lines 29-37), to at least one descrambling terminal associated with an access control module provided with a security processor (column 4, lines 43-51), the ECM messages containing access criteria and the cryptogram of the control word, the control word and the cryptogram of the control word being changed periodically (column 2, lines 47-55), access to said scrambled information at each descrambling terminal being conditional upon a "true" value for said access criteria when compared with at least one access right registered in the access control module (Figures 6A, 6B, 6C, 6D, 6E, 8A [block 830], column 4, lines 24-34), and then upon decrypting said cryptogram of the control word using the operating key, in order to recover said control word and to descramble said scrambled information (column 2, lines 47-55, column 4, lines 24-34), the protocol being characterized in that it further consists:

in assigning each access control message, ECM message, a number ( $T_j$ ) satisfying a monotonic nondecreasing function, consecutive messages ECM, with successive numbers representing a timebase formed by a plurality of individual time intervals for sending successive individual quanta of scrambled information (Figures 6B, 6C, 6D, column 10, lines 43-54, column 11, lines 1-33, i.e. the ECM contains a key that corresponds to a given time period);

in detecting in each descrambling terminal the number ( $T_j$ ) of each access control message, message ECM<sub>j</sub>, and then, in response to a user request (UR) from the user of said descrambling terminal for conditional controlled access to at least a portion of said scrambled information (column 7, lines 36-47, column 8, lines 13-59);

Art Unit: 2131

in selecting a number for an access control message, message  $ECM_j$  the number corresponding to the sending time of said request, and constituting a time origin ( $T_{j0}$ ) of said timebase (Figures 6B, 6C, 6D, column 10, lines 43-54, column 11, lines 1-33); and as a function of a specific access criterion, in authorizing said user to access said scrambled information from said origin ( $T_{j0}$ ) of said timebase over a time range corresponding to a plurality of individual time intervals defining a plurality of successive individual quanta of scrambled information (Figures 6B, 6C, 6D, 8A, 8B, 8C, column 8, lines 13-59, column 10, lines 43-54, column 11, lines 1-33). U.S. Patent No. 6,035,038 to Campinos et al., hereinafter Campinos, discloses encrypting the control word in the entitlement control messages in at least the Abstract, as such encrypting control words is well-known and commonly practice, and official notice is taken thereof.

12. Regarding claim 2, Candelore teaches that said time range (Figures 7A [block 720], 7B [block 770], column 2, lines 47-54, i.e. time interval) is defined by a first offset ( $t_d$ ) from said origin ( $T_{j0}$ ) corresponding to the beginning of the access as a function of said specific access criterion, and a second offset ( $t_f$ ) corresponding to the end of the access as a function of said specific access criterion (Figures 6B, 6C, 6D, 8A, 8B, 8C, column 10, lines 43-54, column 11, lines 1-33).

13. Regarding claim 3, Candelore teaches that said monotonic non-decreasing function is a continuously increasing function of the sending time of the control messages  $ECM_j$  (Figures 6B, 6C, 6D, 8A, 8B, 8C, column 10, lines 43-54, column 11, lines 1-33, i.e. time X, time X+1...).

14. Regarding claim 4, Candelore teaches said monotonic non-decreasing function is an increasing step function of the sending time of the control messages  $ECM_j$  (Figures 6B, 6C, 6D, 8A, 8B, 8C, column 10, lines 43-54, column 11, lines 1-33, i.e. time X, time X+1...).

15. With regards to claim 5, Candelore teaches that each step is defined by a constant number over a plurality of sending times of the control messages  $ECM_j$  which defines a timebase with a resolution different from the sending time of the control messages  $ECM_j$  (Figure 5A, 5B, column 9, line 34 to column 10, line 28).

16. With regards to claim 7, Candelore teaches that said specific access criterion corresponds to free access (column 1, lines 14-24, column 8, lines 44-46, i.e. HD signal can be received via antenna for free).

17. With regards to claim 8, Candelore teaches that said time range is either an interval backwards from said origin,  $td \leq 0$  AND  $tf \leq 0$ , or an interval forwards from said origin,  $td \geq 0$  AND  $tf \geq 0$ , or a forward and backward interval,  $td \leq 0$  AND  $tf \geq 0$  (Figures 5A, 5B, column 2, lines 47-55, column 9, lines 48-62, column 10, lines 5-28).

18. Regarding claim 9, Candelore teaches the viewings (NV) at the request the user in accordance with said specific access criterion in said time range and outside said time range, the protocol consists at least:



Art Unit: 2131

in defining a maximum authorized number of viewings (NVM); in testing whether the number of viewings (NV) is less than or equal to said authorized maximum number of viewings (NVM); and, in the event of a negative result of said test, refusing access to the scrambled information (column 2, lines 1-28, i.e. limiting the number of viewings); else

in testing whether said current number ( $T_j$ ) is in said time range (Figures 6B, 6C, 6D, column 10, lines 43-54, column 11, lines 1-33); and,

in the event of said current number ( $T_j$ ) being in said time range (Figures 6B, 6C, 6D, column 10, lines 43-54, column 11, lines 1-33);

in authorizing access to said scrambled information on the basis of the specific access criterion during said time range (column 10, lines 5-43); else

in authorizing access on the basis of a distinct access criterion other than specific access criterion (column 10, lines 5-43). Boolean operations used for authorization are well known and commonly practice, and official notice is hereby taken of such.

19. With regards to claim 10, Candelore teaches authorization of forward access to said scrambled information beyond said time range, on the basis of an access criterion other than said specific access criterion (column 2, lines 56-67, column 10, lines 55-67, i.e. recording for later use, future time period); and

authorization of backward access to said scrambled information before said time range, on the basis of an access criterion other than said specific access criterion (column 10, lines 55-67, i.e. past time period). As noted above, Boolean operations are well known and commonly practiced, and Official notice is taken thereof.

Art Unit: 2131

20. With regards to claim 11, Candelore teaches that, if said current number ( $T_j$ ) is not in said time range, said authorization of access based on an access criterion other than said specific access criterion:

in submitting said current number ( $T_j$ ) and said first Boolean variable (AV) to a first logical test to verify whether said current number ( $T_j$ ) is equal to or greater than said origin number ( $T_{j0}$ ) and to authorize forward access to said scrambled information (column 10, lines 43-54, column 11, lines 1-33) or

to a second logical test to verify whether said current number ( $T_j$ ) is equal to or the less than said origin number ( $T_{j0}$ ) and to authorize backward access to said scrambled information (column 10, lines 43-54, column 11, lines 1-33) and, in the event of a positive result of either of the first or second logical tests:

in authorizing forward access, or backward access as the case may be to said scrambled information with no incrementing of the number of viewings (column 10, lines 55-67) and, in the event of a negative result of both the first and second logical tests:

in testing whether said number of viewings (NV) is less than the authorized maximum number of viewings (NVM); and in the event of a negative result of said test, in refusing access to the scrambled information and incrementing said number of viewings (NV) by 1 (column 2, lines 1-28), else

in authorizing forward, respectively backward, access to said scrambled information (column 10, lines 55-67). As noted above, Boolean operations are well known and commonly practiced, and Official notice is taken thereof.

Art Unit: 2131

21. Concerning claim 12, Candelore teaches that for a specific access control corresponding to a basic rewind service for a recording and an authorized maximum number of viewings  $NVM = 1$  (column 2, lines 1-28), said time range is a backward range defined by  $td < 0$  AND  $tf = 0$  (column 10, lines 43-54, column 11, lines 1-33), forward access being authorized, backward access not being authorized (column 10, lines 55-67). As noted above, Boolean operations are well known and commonly practiced, and Official notice is taken thereof.

22. Concerning claim 13, Candelore teaches that for a specific access control corresponding to a free access preview service, said time range is a forward range defined by  $td = 0$  AND  $tf > 0$  (column 10, lines 43-54, column 11, lines 1-33), the authorized maximum number of viewings is  $NVM = 1$  (column 2, lines 1-28), recording and/or backward access not being authorized (column 2, lines 56-67). As noted above, Boolean operations are well known and commonly practiced, and Official notice is taken thereof.

23. Concerning claim 14, Candelore teaches that for looped transmission of scrambled information, said authorized maximum number of viewings is set a particular value (column 2, lines 1-28), said time range for access to the scrambled information has a specific value (column 10, lines 43-54, column 11, lines 1-33). As noted above, Boolean operations are well known and commonly practiced, and Official notice is taken thereof.

***Claim Rejections - 35 USC § 103***

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2131

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Candelore in view of U.S. Patent Application Publication No. 2002/0076050 to Chen et al., hereinafter Chen.

26. Concerning claim 6, Candelore does not teach that each number is defined by a timestamp, each step being defined by the time range represented by two separate timestamps.

27. Chen teaches that each number is defined by a timestamp, each step being defined by the time range represented by two separate timestamps (Figure 4 [blocks 408, 412], paragraph [0080]-[0086]).

28. It would have been obvious to one of ordinary skill in the art at the time the invention was made to define the time range by two separate timestamps, since Chen states at paragraph [0078] that the use of timestamps allows the legal owner to trace the last legal session when the current session has been compromised.

### *Conclusion*

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

30. The following patents are cited to further show the state of the art with respect to entitlement control messages, such as:

United States Patent No. 6,584,199 to Kim et al., which is cited to show a conditional access control system using entitlement control messages.

United States Patent No. 7,116,892 to Wajs, which is cited to show a system for scrambling and descrambling data according to entitlement control messages.

Art Unit: 2131

United States Patent Application Publication No. 2001/0012366 to Van Rijnsoever et al., which is cited to show a conditional access control system using entitlement control messages.

United States Patent No. 6,633,644 to Van Rijnsoever et al., which is cited to show a conditional access control system using entitlement control messages.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian La Forgia whose telephone number is (571) 272-3792.

The examiner can normally be reached on Monday thru Thursday 7-5.

32. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

33. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christian LaForgia  
Patent Examiner  
Art Unit 2131



clf